

A0001769

Lake Pontchartrain, La. and Vicinity, Citrus Lakefront
Floodwall - Review of Pile Capacity at Test Site 1,
Contract No. DACW29-79-L-0286

LMNED-FS

C/Design Br

C/F&M Br

5 Feb 80

Mr. Richardson/mlm/1031

1. Reference is made to the 4 Feb 80 meeting on the subject contract in Construction Division. Mr. Tiong Tan of your branch and Mr. Richardson of this branch were in attendance.
2. One of the subjects of discussion was the previously furnished pile tip elevations in the vicinity of the Lakefront airport. The contractor pointed out the problems he would have in placing the piles to a tip elevation of -55 N.G.V.D. He requested us to review our pile layouts and design loads to see if, by adding more of the shorter piles, the piles to elevation -35 N.G.V.D. might be used.
3. We have reviewed the results of the tests on pile TP-1-2 and have determined the following allowable capacities (FS = 2.0) for 12" X 12" concrete piles with tip elevations at (-) 35 N.G.V.D.:

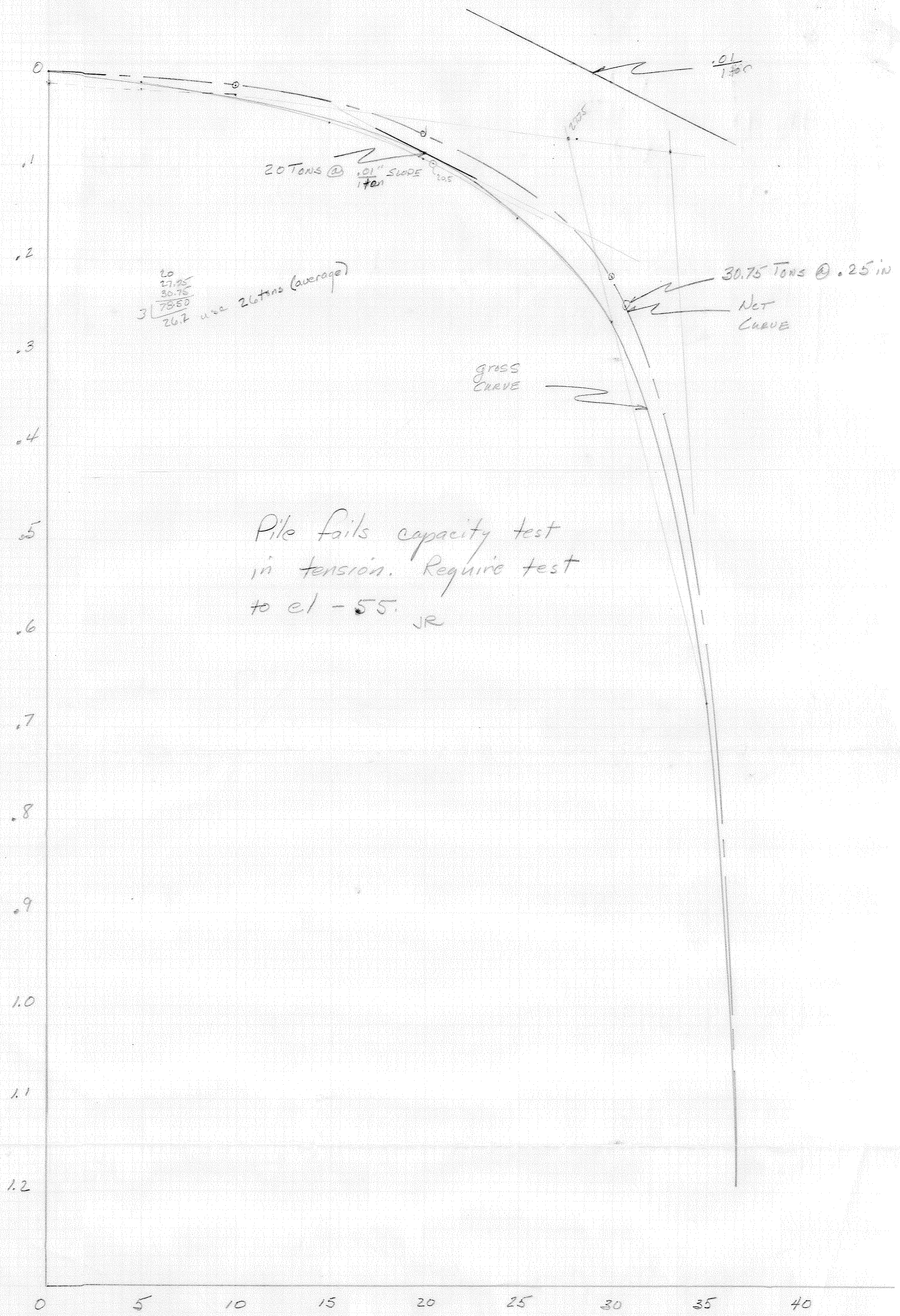
Compression capacity = 68 kips

Tension capacity = 26 kips

4. These values were given to Mr. Tan on 4 Feb via telephone to expedite his analyses.

PICCIOLA

FILE



$$\begin{array}{r} 20 \\ 27.25 \\ 30.75 \\ \hline 78.50 \\ 26.2 \end{array}$$
 use 26 tons (average)

20 TONS @ .01" SLIPS / 1700

.01 / 1700

30.75 TONS @ .25" IN NET CURVE

GROSS CURVE

Pile fails capacity test in tension. Require test to el - 55. JR

TONS

TENSION TEST
CITRUS LAKEFRONT FLOODWALL
TP-1-2

Citrus Lakefront Floodwall
Pile Test Site 1

Test Pile TP-1-2

Test capacities - 68 tons in Compression (136 kips)
- 26 tons in Tension (52 kips)

Structure	Piles	Maximum Design Loads in Kips	Factor of Safety
Gate No 1	31	Comp - 25.5 to 75 4 piles @ 75 9 piles @ 69.9 Tension - 31.9 to 38.4	1.81 } 1.95 } 1.35 }
Gate No. 2	13	Comp. - 1 pile @ 73 (train) 1 pile @ 64.6 1 pile @ 63.5 1 pile @ 60.6 Tension 20.3 to 23.6	1.86 } 2.10 2.14 2.24 2.56 to 2.20
Gate No 2A	12	Comp - 17 to 59.5 1 pile @ 59.5 1 pile @ 58.9 1 pile @ 56.6 1 pile @ 56.0 Tension - 6.8 to 20.5	8.0 to 2.28 2.28 2.31 2.40 2.43 2.65 to 2.53
Gate No 3	12	Comp - 4 piles @ 55.3 rest below 50 Tension - 2.9 to 18.9	2.46 17.9 to 2.75
Gate No 4	8	Comp 1 @ 55.8 Tension 0 to 11.6	2.43 to 4.48
Gate No. 4A	27	Comp 2 piles @ 60.8 (truck load) 59 max for water load Tension 3 piles @ 37.4	2.24 2.31 1.39 }
T-wall w/ 4+45 to 5+03	?	Comp - 30.4 to 58.1 1 pile @ 58.1 1 pile @ 57.3 1 pile @ 54.3 Tension - 25.5 max	4.47 to 2.34 2.34 2.37 2.50 2.04

10 Dec 79

Citrus Lakefront Pile Test Site 1

Maximum Design Loads

			total	26
Gate 1	Comp	25.5 to 75.0	31	9 - 69.9
	Ten	31.9 to 38.4		4 - 75

Gate 2	Comp	1 - 60.6 1 - 63.5	1 - 73 (train) 1 - 69.6	13
	Ten	20.3 to 28.6		

Gate 2A	Comp	17 to 59.4	12	1 @ 59.5
	Ten	6.8 to 20.5		1 @ 58.9
				1 @ 56.6
				1 @ 56

Gate 3	Comp	55.3 - 4 piles rest below 50	12	
	Ten	2.9 to 18.9		

~~OT / ton~~

Gate 4	Comp	1 @ 55.8	8	
	Ten	0 to 11.6		

T Wall

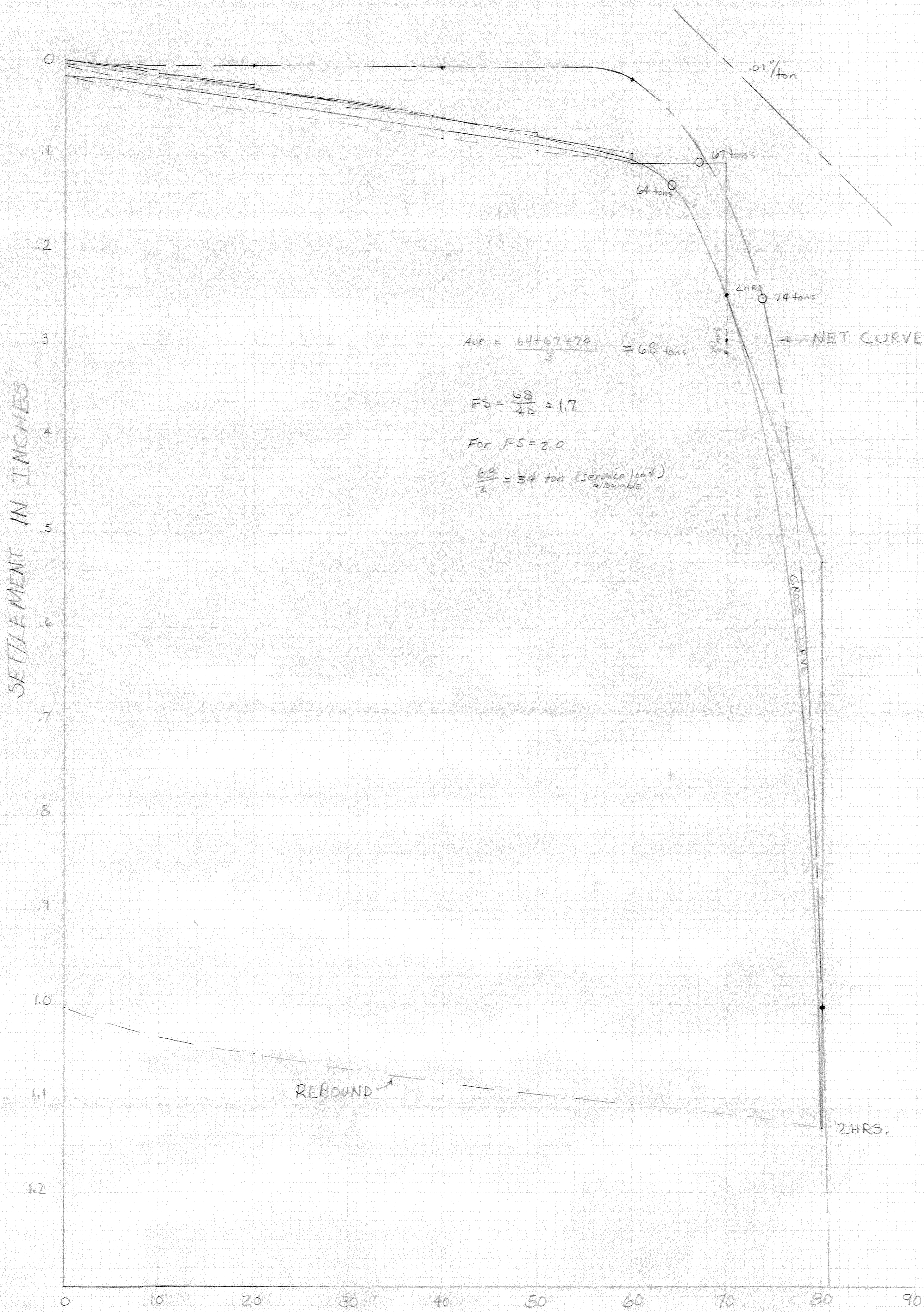
w/L 4 + 45 to 5 + 03	Comp	20.4 to 58.1	1 @ 58.1, 1 @ 57.3
			1 @ 54.3

Ten 25.5 max

Gate 4A	Comp	truck 60.8 - 2 pile (max) 59 max for water load	27
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Ten 37.4 (max) @ 3 pile

* 175
40
7000



LOAD IN TONS

Notes: Plotted from advance copy of field readings

Lake Pont. and Vic
 Citrus Lakefront Floodwall
 Test Pile TP-1-2
 Compression Test - 3 Dec 79
 7 Dec 79 LHMED-FS